

LIFT STATION AND METHOD

Abstract of the Disclosure

4 A lift station for raising the level of an open channel flow of liquid by sweeping
5 blades mounted to a rotated wheel into the liquid flow after entering a housing to sweep the
6 liquid up and back along a housing interior wall and over a weir edge located well above the
7 level of the open channel flow stream. The flow stream is caused to descend as it enters the
8 housing through a drop to increase the flow velocity to a degree sufficient to offset the impeding
9 effect on upstream flow of the encounter of the flow with the rotating blades. Roller bearings are
10 mounted to the inside of the housing to side walls to support the bladed wheel and are packed
11 with a solid lubricant to insure a long service life despite being exposed to the liquid and debris
12 entrained therein. A reverse rotation device positively prevents a backwards rotation of the
13 wheel to prevent damage to the blades. The wheel is driven by a motor mounted in a housing
14 tray affixed to one side wall driving a drive shaft penetrating the side wall. The housing tray
15 collects any liquid leaking past the shaft and has a sloping bottom directing liquid back towards a
16 drain hole in the housing side wall.